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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,012	07/11/2003	Noboru Toyozawa	075834.00414	4396

7590 10/18/2005

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EXAMINER

HOLTON, STEVEN E

ART UNIT PAPER NUMBER

2673

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,012

Applicant(s)

TOYOZAWA ET AL.

Examiner

Steven E. Holton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities:

Page 8, line 25, the specification discusses Fig. 12, the Examiner notes that this is a typographical error and should be Fig. 2

Page 12, line 21, the specification uses incorrect element numbers for the "shift registers 32n, 32n+1, and 32n+2". The Examiner notes that they should be 31n, 31n+1, and 31n+2 to reference the shift registers; whereas, 32n, 32n+1, and 32n+2 would reference AND gates, which does not fit with the meaning of the sentence.

Page 13, line 1, the term 'other output' should be 'other input' as the Enable Pulse is an input to the AND gates.

Appropriate correction is required.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "power-off button" of claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 5, and 7-10 recite the limitation "common electrodes of the pixels" in the last (or next to last) line of each of the claims. There is insufficient antecedent basis for this limitation in the claim. The Examiner notes that the common electrodes are discussed in the specification and are understood within the art, but lack a proper reference within each of the independent claims. Thus, the independent claims and their dependent claims are rejected under 35 U.S.C. 112, second paragraph.

Claim 4 recites the limitation, "wherein said second control means is a precharging scanning system which..." However, claim 3, recites the limitation, "wherein the second control means is a horizontal scanning system which..." The Examiner notes that the applicant shows in Fig. 7 that the precharge driver (element 60) and the horizontal driver (element 14) are distinct and separate elements. Therefore, the second control means cannot be both the precharging scanning system and the horizontal scanning system as would be required by the limitations of claim 4.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasui et al. (USPN: 5248963), hereinafter Yasui.

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Regarding claims 1, 7 and 9, which are drawn to a display device, method of operation of the display device and portable terminal made for the display device, Yasui teaches, "A liquid crystal display device comprising:

A pixel section having pixels arranged in a matrix (Fig. 3, elements 12, col. 1, lines 17-19) which include active elements (Fig. 3, element 13, col. 1, lines 19-20), and signal lines connected to columns of pixels (Fig. 3, elements 14₁-14_n, col. 1, lines 21-27; Examiner notes that the signal lines are called 'source buses' in the reference)

First control means for switching on the active elements for all the pixels in said pixel section (Fig. 3, elements 18 and 19, col. 1, line 61- col. 2, line 20) when said liquid crystal display device is in a power-off state (col. 3, line 51 – col. 4, line 16)

Second control means for setting, in the power-off state, all the signal lines to each have a potential equal to the potential of common electrodes of the pixels (Fig. 3, element 16, col. 3, lines 58-67)."

Regarding claim 2, Yasui teaches, "wherein said first control means is a vertical scanning system which sequentially switches on the active elements in units of rows when said liquid crystal display device is in a normal display mode (Fig. 3, elements 18 and 19, col. 1, line 61 – col. 2, line 20), and which simultaneously switches on the active elements in the power-off state (Fig. 3, elements 18 and 19; col. 3, line 51 – col. 4, line 16, especially col. 4, lines 11-12)."

Regarding claim 3, Yasui teaches, "wherein said second control means is a horizontal scanning system which, in the normal display mode, supplies a display signal to pixels in a row selected by said vertical scanning system (Fig. 3, element 16, col. 1,

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lines 28-53), and which, in the power-off state, supplies all the signal lines with a potential equal to the potential of the common electrodes of the pixels (Fig. 3, element 16, col. 3, lines 58-67)."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui in view of Everitt (USPN: 6954606).

Regarding claim 4, as shown above Yasui discloses all of the limitations of the claim except "wherein said second control means is a precharging scanning system which, in the normal display mode, supplies a precharging signal to the pixels in the row selected by said vertical scanning system before said horizontal scanning system supplies the display signal to the pixels in the row selected by said vertical scanning system."

Everitt discloses a column driver that also acts as a precharge driver (Fig. 4, element 300; col. 5, line 27- col. 9, line 50; and col. 4, lines 21-29 as a summary of the invention).

At the time of invention it would have been obvious to one skilled in the art to combine the column driver of Yasui with the precharge capabilities of the driver of

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Everitt. The motivation for doing so would have been to "determine and apply the correct voltage at the beginning of scans of current-driven devices in an array (Everitt, col. 3, lines 61-63)". By using the column driver as a pre-charge driver as shown by Everitt, the second control means would provide all of the functions of the device specified in claim 4.

7. Claims 5, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagisawa et al. (USPN: 6621489), hereinafter Yanagisawa, in view of Yasui.

Regarding claims 5, 8 and 10, which are drawn to a device, method of operation and portable terminal comprising the device, Yanagisawa discloses a related liquid crystal display device with "a pixel section (Fig. 6, element 31, col. 2, lines 1-26) having pixels arranged in a matrix which include active elements (Fig. 6, element 44, col. 2, lines 27-41), and signal lines connected to columns of pixels (Fig. 6, element 43, called data lines, but act as signal lines, col. 2, lines 27-41)... in the power-off state, white level signals or black level signals are written in all the pixels while the pixels in said pixel section are first selected in a sequential manner in units of rows (col. 7, lines 17-42)". The Examiner notes that writing by rows is discussed by Yanagisawa in col. 2, lines 27-30 and that the technique is well-known in the art. However, Yanagisawa does not disclose a "second power-off mode, in the power-off state, the active elements for all the pixels in said pixel section are switched on and all the signal lines are set to each have a potential equal to the potential of common electrodes of the pixels."

Yasui discloses a power-off mode where all the active elements for all the pixels are switched on (col. 1, line 61- col. 2, line 20) and all the signal lines are set to each

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have a potential equal to the potential of the common electrodes of the pixels (col. 3, lines 58-67).

At the time of invention it would have been obvious to one skilled in the art to combine the different power-off states of Yanagisawa and Yasui to provide different power-off states. The motivation for utilizing both power-off states would be to provide the clear screen power off provided by Yanagisawa "to provide an LCD display unit that does not produce irregular after-images on the LCD display when the power supply thereof is shut off (col. 3, lines 57-63)" and as provided by Yasui to provide a method that "permits clearing of a display on a liquid crystal display panel in a markedly shorter time than in the past (col. 2, lines 60-62)" and to prevent "shortening of liquid crystal life and lowering of its reliability (col. 2, lines 67-68)". The Examiner notes that using a system with both types of power-off states would require some way of selecting which power-off state to use and therefore a selecting means to choose a first or second power-off mode and use the method of Yanagisawa or Yasui would be inherent within the device.

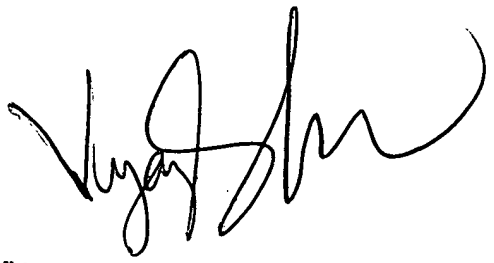
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571) 272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven E. Holton
October 13, 2005
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VIJAY SHANKAR
PRIMARY EXAMINER